IN THE CLAIMS

1. Dry powder inhaler (1) with a mouthpiece (2) for dispersing pharmaceutical drug formulations, having an auxiliary energy source in the form of a pressure medium system (3), with a device for provisioning (6) of a powder formulation (7), whereby upon activation of the pressure medium system a gaseous pressure medium (8) released by the pressure medium system (3) forms with the powder formulation (7) an aerosol (9) in such a way that the powder particles are present in dispersed form within the gaseous pressure medium (8), characterized in that provided in the inhaler (1) is a Laval nozzle (10) through which the aerosol (9) flows before leaving the inhaler (1).

2. – 6. (cancelled)

7. Dry powder inhaler (1) according to claim 1 ~~Claims 4 to 6~~, characterized in that the narrowest cross section (14) of the Laval nozzle (10) is 100 µm to 1500 µm, preferably 400 µm to 800 µm, in diameter.

8. (cancelled)

9. Dry powder inhaler (1) according to claim 1 ~~one of the preceding Claims~~, characterized in that the pressure medium system (3) exhibits a pump that is connected to the surroundings and uses ambient air as the pressure medium (8).

10. Dry powder inhaler (1) according to claim 1 ~~one of the Claims 1 through 8~~, characterized in that the pressure medium system (3) includes a cartridge that stores the ~~a pressurized~~ pressure medium (8).

11. (cancelled)

12. Dry powder inhaler (1) according to claim 10 ~~one of the Claims 1 through 8 or 10 through 11~~, characterized in that air, N2, CO2, Ar, or He is provided as the pressure medium (8).

13. Dry powder inhaler (1) according to claim 1 ~~one of the preceding Claims~~, characterized in that the device for provisioning (6) of the powder formulation (7) is placed between the pressure medium system (3) and the Laval nozzle (10) in such a way that the pressure medium (8) must pass through the device (6).

14. Dry powder inhaler (1) according to claim 1 ~~one of the preceding Claims~~, characterized in that the device for provisioning (6) of the powder formulation (7) comprises ~~is exhibits~~ a capsule (15) filled with powder (7).

15. (cancelled)

16. Dry powder inhaler (1) according to claim 1 ~~one of the Claims 1 through 13~~, characterized in that the device for provisioning (6) of the powder formulation (7) comprises ~~includes~~ a multidose blister container.

17. Dry powder inhaler (1) according to claim 1 ~~one of the Claims 1 through 8 or 10 through 16~~, wherein ~~characterized in that provided in~~ the mouthpiece (2) comprises ~~is~~ a flow rate sensor (19) that generates an input signal for the pressure medium system (3).

18. Dry powder inhaler (1) according to claim 1 ~~one of the preceding Claims~~, further comprising an inlet channel, whereby ~~characterized in that a swirling flow of~~ inhalation air ~~that~~ is drawn in through the ~~an~~ inlet channel, and whereby a swirling flow of the inhalation air is created between the outlet section (12) and the outlet of the mouthpiece (2).

19. Dry powder inhaler (1) according to claim 1 ~~one of the preceding Claims~~, characterized in that the Laval nozzle (10) and an inlet channel (18) for ~~the~~ inhalation air are arranged in such a way that the aerosol flow leaving the Laval nozzle (10) and the inhalation air are directed in opposite directions (Fig. 7).

20. Dry powder inhaler (1) according to claim 1 ~~one of the Claims 1 through 19~~, characterized in that the Laval nozzle (10) and an inlet channel (18) for ~~the~~ inhalation air are arranged in such a way that the aerosol flow leaving the Laval nozzle (10) and the inhalation air collide with each other at an angle.

21. Dry powder inhaler (1) according to claim 18 ~~one of the Claims 1 through 20~~, characterized in that the channel (30) that guides the aerosol flow and the inlet channels (18) for the inhalation air empty into a swirl chamber (29), whereby~~:~~ the

aerosol cloud is directed from the swirl chamber (29) ~~there~~ to the Laval nozzle (10) (Fig. 6).

22. Dry powder inhaler (1) with a mouthpiece (2) for dispersing pharmaceutical drug formulations, having an auxiliary energy source in the form of a pressure medium system (3), with a device for provisioning (6) of a powder formulation (7), whereby upon activation of the pressure medium system a gaseous pressure medium (8) released by the pressure medium system (3) forms with the powder formulation (7) an aerosol (9) in such a way that the powder particles are present in dispersed form within the gaseous pressure medium (8), characterized in that provided in the inhaler (1) is a nozzle (10) comprising an aperture plate (28) through which the aerosol (9) flows before leaving the inhaler (1).

23. Dry powder inhaler (1) according to claim 22, characterized in that the nozzle (10) exhibits a narrowing inlet section (11) that connects to the aperture plate (28).

24. Dry powder inhaler (1) according to claim 22, characterized in that the pressure medium system (3) exhibits a pump that is connected to the surroundings and uses ambient air as the pressure medium (8).

25. Dry powder inhaler (1) according to claim 22, characterized in that the pressure medium system (3) includes a cartridge that stores the pressure medium (8).

26. Dry powder inhaler (1) according to claim 25, characterized in that air, N2, CO2, Ar, or He is provided as the pressure medium (8).

27. Dry powder inhaler (1) according to claim 22, characterized in that the device for provisioning (6) of the powder formulation (7) is placed between the pressure medium system (3) and the nozzle (10) in such a way that the pressure medium (8) must pass through the device (6).

28. Dry powder inhaler (1) according to claim 22, characterized in that the device for provisioning (6) of the powder formulation (7) comprises a capsule (15) filled with powder (7).

29. Dry powder inhaler (1) according to claim 22, characterized in that the device for provisioning (6) of the powder formulation (7) comprises a multi-dose blister container.

30. Dry powder inhaler (1) according to claim 22, wherein the mouthpiece (2) comprises a flow rate sensor (19) that generates an input signal for the pressure medium system (3).

31. Dry powder inhaler (1) according to claim 22, further comprising an inlet channel, whereby inhalation air is drawn in through the inlet channel, and whereby a swirling flow of the inhalation air is created between the outlet section (12) and the outlet of the mouthpiece (2).

32. Dry powder inhaler (1) according to claim 31, characterized in that the channel (30) that guides the aerosol flow and the inlet channels (18) for the inhalation air empty into a swirl chamber (29), wherein the aerosol cloud is directed from the swirl chamber to the nozzle (10) (Fig. 6).

33. Dry powder inhaler (1) according to claim 22, characterized in that the nozzle (10) and an inlet channel (18) for inhalation air are arranged in such a way that the aerosol flow leaving the nozzle (10) and the inhalation air are directed in opposite directions (Fig. 7).

34. Dry powder inhaler (1) according to claim 22, characterized in that the nozzle (10) and an inlet channel (18) for inhalation air are arranged in such a way that the aerosol flow leaving the nozzle (10) and the inhalation air collide with each other at an angle.